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10/593,478

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Steinar Pedersen

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WENDEROTH, LIND & PONACK, L.L.P.

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EXAMINER

CHEUNG, WILLIAM K

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

10/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/593,478 | Applicant(s) PEDERSEN ET AL. | |
| | Examiner WILLIAM K. CHEUNG | Art Unit 1796 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>092006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the amendment filed September 20, 2006, Claims 1-5 have been cancelled. Claims 6-9 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 6, 8, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kasai et al. (US 4,694,035).

6. (New) A method for production of storage stable polymer-oligomer particles with a high swelling capacity where polymer particles at first are added an initiator that is swelled into said particles and subsequently a monomer, or a mixture containing monomer, is added that is swelled into said particles, wherein the mole ratio between said initiator and said monomer is in the range from 0.07:1 to 0.01:1.

Kasai et al. (col. 2, line 26-31) disclose swellable particles that can swell 100:1 ratio. In example 9, Kasai et al. (col. 18, Example 9; col. 31, claim 1) disclose monodisperse polymethyl methacrylate particles used as seed particles swollen with monomer and initiators. According to the table of Example 9, 2 weight percent of

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benzoyl peroxide (initiator) based on the weight of monomer is used. Regarding claim 9,

Kasai et al. (example 9) also indicate that the monomers added are in droplet forms.

Since the molecular weights of the initiator and monomer are about the same, the

disclosed 2 parts is equivalent to about 2 mole percent as claimed. Kasai et al. contain

all the features as claimed. Claims 6, 8, 9 are anticipated.

EXAMPLE 9, AND COMPARATIVE EXAMPLE 6

10

| | | |
|----|--|-----------|
| | 2-Ethylhexyl acrylate (water solubility: 1×10^{-4} g/100 g H ₂ O) | 100 parts |
| | Water | 200 parts |
| 15 | Sodium dodecylbenzenesulfonate | 1.0 part |
| | Benzoyl peroxide (dissolved in 2-ethyl- hexyl acrylate) | 2 parts |

20 The above ingredients were stirred in the same manner as in Example 1 to prepare a dispersion in which 2-ethylhexyl acrylate was finely dispersed (maximum particle diameter: 0.09 μ m). After allowing to stand for 3 hours, the above dispersion was measured for the number average particle diameter in a semi-stable condition, D_m, by the use of a dynamic light-scattering analyzer (Model N4 manufactured by Callter Co.). D_m was 9.32 μ m.

25 The same 2-ethylhexyl acrylate dispersion as prepared above was used as a monomer dispersion, and monodisperse polymethyl methacrylate particles (number average particle diameter: 0.12 μ m) were used as seed particles. The amount (solids) of polymethyl methacrylate particles used, the desired number average particle diameter D, and the contact time between 2-ethylhexyl acrylate droplets and seed particles were
35 determined as shown in Table 3.

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kasai et al. (US 4,694,035).

Set forth from paragraph 3 of instant office action, the invention of claim 7 is very similar to the method as taught in Kasai et al.

The difference between the invention of claim 7 and Kasai et al. is that Kasai et al. disclose the use of 2 parts of initiator instead of from 3 to 6 mole percent as claimed.

However, since Kasai et al. have taught a process embodiment that is very similar to the process as claimed, the mere difference or a slight change in concentration would be considered obvious in view of MPEP 2144.05. Motivated by the expectation of success of that the initiator concentration can be varied to optimize that properties of the polymer product produced.

II. OPTIMIZATION OF RANGES

A. Optimization Within Prior Art Conditions or Through Routine Experimentation

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be *prima facie* obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%); see also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382 (“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.”); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the references were held to be unpatentable thereover because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions.). For more recent cases applying this principle, see *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), *cert. denied*, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM K. CHEUNG whose telephone number is (571)272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William K Cheung/
Primary Examiner, Art Unit 1796

William K. Cheung, Ph. D.
Primary Examiner
September 30, 2008